

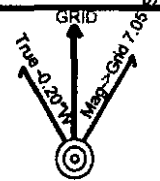
**Job Number:** RDS 15-025  
**Company:** RKI Energy  
**Lease/Well:** NBD Federal 35-6H  
**Location:**  
**Rig Name:** Silver Oak 14  
**State/Country:** New Mexico/ Eddy  
**Country:** USA  
**API Number:** 30-015-42293

**Elev. GL:** 0.00 ft **RKB:** 0.00 ft  
**System:** US State Plane 1983  
**Group:** New Mexico Eastern Zone  
**Datum:** GRS80  
**Mag. Decl.:** 7.25° (C:\HawkEye\GRF2005.MIF)  
**Grid Conv.:** 0.20162 E  
**Date:** Saturday, August 22, 2015



Calculated by HawkEye Software  
 Minimum Curvature Method  
 Vertical Section Plane 178.81°  
 Northing (US ft): 397806.70 Easting (US ft): 658851.20  
 Latitude: 32°05'36.0943" N Longitude: -103°57'13.8947" W  
 Direction Reference: Grid North

15-42293



| Measured Depth (Ft) | INC Deg | AZM Deg | TVD (Ft) | NS (Ft) | EW (Ft) | VS (Ft) | DLS %/100 Ft | Easting (US ft) | Northing (US ft) | UD/NS From-Plan (Ft) | LR/EW From-Plan (Ft) |
|---------------------|---------|---------|----------|---------|---------|---------|--------------|-----------------|------------------|----------------------|----------------------|
| 0.00                | 0.00    | 0.00    | 0.00     | 0.00    | 0.00    | 0.00    | 0.00         | 658851.20       | 397806.70        | 0.00 (N)             | 0.00 (E)             |
| 100.00              | 0.10    | 299.50  | 100.00   | 0.04    | -0.08   | -0.04   | 0.10         | 658851.12       | 397806.75        | 0.04 (N)             | -0.08 (W)            |
| 200.00              | 0.00    | 0.00    | 200.00   | 0.09    | -0.15   | -0.09   | 0.10         | 658851.05       | 397806.79        | 0.09 (N)             | -0.15 (W)            |
| 300.00              | 0.20    | 357.00  | 300.00   | 0.26    | -0.16   | -0.26   | 0.20         | 658851.04       | 397806.96        | 0.26 (N)             | -0.16 (W)            |
| 400.00              | 0.20    | 350.90  | 400.00   | 0.61    | -0.20   | -0.61   | 0.02         | 658851.00       | 397807.31        | 0.61 (N)             | -0.20 (W)            |
| 500.00              | 0.50    | 349.40  | 500.00   | 1.21    | -0.31   | -1.21   | 0.30         | 658850.89       | 397807.91        | 1.21 (N)             | -0.31 (W)            |
| 600.00              | 1.00    | 358.60  | 599.99   | 2.51    | -0.41   | -2.52   | 0.51         | 658850.79       | 397809.21        | 2.51 (N)             | -0.41 (W)            |
| 713.00              | 1.20    | 326.20  | 712.97   | 4.48    | -1.09   | -4.50   | 0.57         | 658850.11       | 397811.18        | 4.48 (N)             | -1.09 (W)            |
| 804.00              | 1.40    | 329.00  | 803.94   | 6.22    | -2.19   | -6.27   | 0.23         | 658849.01       | 397812.93        | 6.22 (N)             | -2.19 (W)            |
| 896.00              | 1.30    | 343.20  | 895.92   | 8.19    | -3.07   | -8.25   | 0.38         | 658848.13       | 397814.89        | 8.18 (N)             | -3.07 (W)            |
| 988.00              | 1.30    | 356.80  | 987.90   | 10.23   | -3.43   | -10.30  | 0.33         | 658847.77       | 397816.93        | 10.23 (N)            | -3.43 (W)            |
| 1079.00             | 1.30    | 2.50    | 1078.87  | 12.29   | -3.45   | -12.36  | 0.14         | 658847.75       | 397818.99        | 12.29 (N)            | -3.45 (W)            |
| 1170.00             | 1.30    | 10.10   | 1169.85  | 14.34   | -3.22   | -14.40  | 0.19         | 658847.98       | 397821.04        | 14.34 (N)            | -3.22 (W)            |
| 1262.00             | 1.00    | 4.00    | 1261.83  | 16.16   | -2.98   | -16.22  | 0.35         | 658848.22       | 397822.87        | 16.16 (N)            | -2.98 (W)            |
| 1354.00             | 0.50    | 329.10  | 1353.82  | 17.31   | -3.13   | -17.37  | 0.71         | 658848.07       | 397824.01        | 17.31 (N)            | -3.13 (W)            |
| 1445.00             | 0.60    | 230.90  | 1444.82  | 17.35   | -3.70   | -17.42  | 0.92         | 658847.50       | 397824.05        | 17.35 (N)            | -3.70 (W)            |
| 1536.00             | 0.70    | 216.50  | 1535.81  | 16.60   | -4.40   | -16.69  | 0.21         | 658846.80       | 397823.31        | 16.60 (N)            | -4.40 (W)            |
| 1628.00             | 0.60    | 218.20  | 1627.81  | 15.77   | -5.04   | -15.87  | 0.11         | 658846.16       | 397822.48        | 15.77 (N)            | -5.04 (W)            |
| 1720.00             | 0.40    | 203.30  | 1719.81  | 15.10   | -5.46   | -15.21  | 0.26         | 658845.74       | 397821.80        | 15.10 (N)            | -5.46 (W)            |
| 1815.00             | 0.30    | 173.60  | 1814.80  | 14.55   | -5.56   | -14.66  | 0.21         | 658845.63       | 397821.25        | 14.55 (N)            | -5.56 (W)            |
| 1910.00             | 0.20    | 154.40  | 1909.80  | 14.15   | -5.47   | -14.26  | 0.14         | 658845.73       | 397820.86        | 14.15 (N)            | -5.47 (W)            |
| 2005.00             | 0.30    | 151.60  | 2004.80  | 13.78   | -5.28   | -13.89  | 0.11         | 658845.92       | 397820.49        | 13.78 (N)            | -5.28 (W)            |
| 2100.00             | 0.30    | 150.90  | 2099.80  | 13.35   | -5.04   | -13.45  | 0.00         | 658846.16       | 397820.05        | 13.34 (N)            | -5.04 (W)            |
| 2195.00             | 0.30    | 153.90  | 2194.80  | 12.91   | -4.81   | -13.00  | 0.02         | 658846.39       | 397819.61        | 12.90 (N)            | -4.81 (W)            |
| 2290.00             | 0.20    | 189.40  | 2289.80  | 12.52   | -4.72   | -12.61  | 0.19         | 658846.48       | 397819.22        | 12.52 (N)            | -4.72 (W)            |
| 2385.00             | 0.20    | 222.80  | 2384.80  | 12.23   | -4.86   | -12.33  | 0.12         | 658846.34       | 397818.94        | 12.23 (N)            | -4.86 (W)            |
| 2480.00             | 0.40    | 126.50  | 2479.80  | 11.91   | -4.71   | -12.01  | 0.49         | 658846.49       | 397818.62        | 11.91 (N)            | -4.71 (W)            |
| 2575.00             | 0.80    | 121.90  | 2574.79  | 11.37   | -3.88   | -11.44  | 0.42         | 658847.32       | 397818.07        | 11.36 (N)            | -3.88 (W)            |
| 2669.00             | 0.50    | 102.90  | 2668.79  | 10.93   | -2.92   | -10.99  | 0.39         | 658848.28       | 397817.63        | 10.93 (N)            | -2.92 (W)            |
| 2764.00             | 1.10    | 91.30   | 2763.78  | 10.81   | -1.61   | -10.85  | 0.65         | 658849.59       | 397817.52        | 10.81 (N)            | -1.61 (W)            |
| 2859.00             | 1.40    | 95.20   | 2858.75  | 10.69   | 0.46    | -10.68  | 0.33         | 658851.66       | 397817.39        | 10.69 (N)            | 0.46 (E)             |
| 2954.00             | 1.90    | 103.30  | 2953.71  | 10.22   | 3.15    | -10.15  | 0.58         | 658854.35       | 397816.93        | 10.22 (N)            | 3.15 (E)             |
| 3048.00             | 1.70    | 103.40  | 3047.67  | 9.54    | 6.02    | -9.41   | 0.21         | 658857.22       | 397816.24        | 9.54 (N)             | 6.02 (E)             |
| 3143.00             | 1.20    | 105.90  | 3142.64  | 8.94    | 8.35    | -8.77   | 0.53         | 658859.55       | 397815.65        | 8.94 (N)             | 8.35 (E)             |
| 3238.00             | 0.70    | 107.10  | 3237.62  | 8.50    | 9.86    | -8.29   | 0.53         | 658861.06       | 397815.20        | 8.50 (N)             | 9.86 (E)             |
| 3333.00             | 0.50    | 90.30   | 3332.62  | 8.32    | 10.83   | -8.10   | 0.28         | 658862.03       | 397815.03        | 8.32 (N)             | 10.83 (E)            |
| 3428.00             | 0.50    | 74.80   | 3427.61  | 8.43    | 11.64   | -8.19   | 0.14         | 658862.84       | 397815.14        | 8.43 (N)             | 11.64 (E)            |
| 3522.00             | 0.40    | 61.30   | 3521.61  | 8.70    | 12.33   | -8.44   | 0.15         | 658863.53       | 397815.40        | 8.69 (N)             | 12.33 (E)            |
| 3617.00             | 0.10    | 47.40   | 3616.61  | 8.91    | 12.68   | -8.65   | 0.32         | 658863.88       | 397815.62        | 8.91 (N)             | 12.68 (E)            |
| 3712.00             | 0.30    | 249.20  | 3711.61  | 8.88    | 12.51   | -8.62   | 0.42         | 658863.71       | 397815.58        | 8.88 (N)             | 12.51 (E)            |
| 3807.00             | 0.30    | 207.20  | 3806.61  | 8.57    | 12.16   | -8.32   | 0.23         | 658863.36       | 397815.27        | 8.57 (N)             | 12.16 (E)            |
| 3901.00             | 0.20    | 205.60  | 3900.61  | 8.20    | 11.98   | -7.95   | 0.11         | 658863.18       | 397814.91        | 8.20 (N)             | 11.98 (E)            |
| 3996.00             | 0.30    | 161.30  | 3995.61  | 7.82    | 11.99   | -7.57   | 0.22         | 658863.19       | 397814.52        | 7.81 (N)             | 11.99 (E)            |
| 4091.00             | 0.20    | 79.00   | 4090.61  | 7.61    | 12.23   | -7.36   | 0.36         | 658863.43       | 397814.32        | 7.61 (N)             | 12.23 (E)            |

Provide signature page for survey

| Measured<br>Depth<br>(Ft) | INC<br>Deg | AZM<br>Deg | TVD<br>(Ft) | NS<br>(Ft) | EW<br>(Ft) | VS<br>(Ft) | DLB<br>*/100 Ft | Easting<br>(US ft) | Northing<br>(US ft) | UD/NS<br>From-Plan<br>(Ft) | LR/EW<br>From-Plan<br>(Ft) |
|---------------------------|------------|------------|-------------|------------|------------|------------|-----------------|--------------------|---------------------|----------------------------|----------------------------|
| 4186.00                   | 0.10       | 341.60     | 4185.61     | 7.72       | 12.37      | -7.47      | 0.25            | 658863.57          | 397814.43           | 7.72 (N)                   | 12.37 (E)                  |
| 4280.00                   | 0.10       | 220.30     | 4279.61     | 7.74       | 12.29      | -7.48      | 0.19            | 658863.49          | 397814.44           | 7.74 (N)                   | 12.29 (E)                  |
| 4375.00                   | 0.10       | 143.70     | 4374.61     | 7.61       | 12.28      | -7.35      | 0.13            | 658863.48          | 397814.31           | 7.61 (N)                   | 12.28 (E)                  |
| 4470.00                   | 0.10       | 110.30     | 4469.61     | 7.51       | 12.41      | -7.25      | 0.06            | 658863.61          | 397814.22           | 7.51 (N)                   | 12.41 (E)                  |
| 4565.00                   | 0.10       | 355.50     | 4564.61     | 7.57       | 12.48      | -7.31      | 0.18            | 658863.68          | 397814.27           | 7.56 (N)                   | 12.48 (E)                  |
| 4660.00                   | 0.10       | 261.30     | 4659.61     | 7.64       | 12.39      | -7.38      | 0.15            | 658863.59          | 397814.34           | 7.63 (N)                   | 12.39 (E)                  |
| 4754.00                   | 0.00       | 0.00       | 4753.61     | 7.63       | 12.31      | -7.37      | 0.11            | 658863.51          | 397814.33           | 7.62 (N)                   | 12.31 (E)                  |
| 4849.00                   | 0.10       | 284.00     | 4848.61     | 7.65       | 12.23      | -7.39      | 0.11            | 658863.43          | 397814.35           | 7.64 (N)                   | 12.23 (E)                  |
| 4944.00                   | 0.10       | 179.20     | 4943.61     | 7.58       | 12.15      | -7.33      | 0.17            | 658863.35          | 397814.29           | 7.58 (N)                   | 12.15 (E)                  |
| 5038.00                   | 0.10       | 83.60      | 5037.61     | 7.51       | 12.23      | -7.25      | 0.16            | 658863.43          | 397814.21           | 7.51 (N)                   | 12.23 (E)                  |
| 5133.00                   | 0.10       | 15.90      | 5132.61     | 7.60       | 12.34      | -7.34      | 0.12            | 658863.54          | 397814.30           | 7.59 (N)                   | 12.34 (E)                  |
| 5255.00                   | 0.10       | 273.10     | 5254.61     | 7.71       | 12.26      | -7.45      | 0.13            | 658863.46          | 397814.41           | 7.70 (N)                   | 12.26 (E)                  |
| 5348.00                   | 0.00       | 0.00       | 5347.61     | 7.71       | 12.18      | -7.46      | 0.11            | 658863.38          | 397814.42           | 7.71 (N)                   | 12.18 (E)                  |
| 5442.00                   | 0.00       | 0.00       | 5441.61     | 7.71       | 12.18      | -7.46      | 0.00            | 658863.38          | 397814.42           | 7.71 (N)                   | 12.18 (E)                  |
| 5537.00                   | 0.20       | 203.60     | 5536.60     | 7.56       | 12.11      | -7.31      | 0.21            | 658863.31          | 397814.26           | 7.56 (N)                   | 12.11 (E)                  |
| 5632.00                   | 0.30       | 123.10     | 5631.60     | 7.27       | 12.26      | -7.02      | 0.35            | 658863.46          | 397813.98           | 7.27 (N)                   | 12.26 (E)                  |
| 5727.00                   | 0.30       | 65.80      | 5726.60     | 7.24       | 12.69      | -6.97      | 0.30            | 658863.89          | 397813.94           | 7.23 (N)                   | 12.69 (E)                  |
| 5820.00                   | 0.40       | 2.40       | 5819.60     | 7.66       | 12.93      | -7.39      | 0.41            | 658864.13          | 397814.37           | 7.66 (N)                   | 12.93 (E)                  |
| 5915.00                   | 0.50       | 293.80     | 5914.60     | 8.16       | 12.56      | -7.90      | 0.54            | 658863.76          | 397814.87           | 8.16 (N)                   | 12.56 (E)                  |
| 6009.00                   | 0.80       | 229.70     | 6008.59     | 7.90       | 11.69      | -7.66      | 0.78            | 658862.89          | 397814.61           | 7.90 (N)                   | 11.69 (E)                  |
| 6103.00                   | 0.90       | 156.20     | 6102.59     | 6.80       | 11.48      | -6.56      | 1.09            | 658862.68          | 397813.51           | 6.80 (N)                   | 11.48 (E)                  |
| 6196.00                   | 1.20       | 114.30     | 6195.57     | 5.73       | 12.67      | -5.47      | 0.86            | 658863.87          | 397812.44           | 5.73 (N)                   | 12.67 (E)                  |
| 6291.00                   | 1.20       | 71.50      | 6290.55     | 5.64       | 14.52      | -5.34      | 0.92            | 658865.72          | 397812.34           | 5.63 (N)                   | 14.52 (E)                  |
| 6387.00                   | 1.20       | 22.20      | 6386.53     | 6.89       | 15.85      | -6.56      | 1.04            | 658867.05          | 397813.59           | 6.88 (N)                   | 15.85 (E)                  |
| 6481.00                   | 1.10       | 339.70     | 6480.52     | 8.65       | 15.91      | -8.31      | 0.89            | 658867.11          | 397815.35           | 8.64 (N)                   | 15.91 (E)                  |
| 6575.00                   | 1.10       | 299.30     | 6574.50     | 9.93       | 14.81      | -9.62      | 0.81            | 658866.01          | 397816.64           | 9.93 (N)                   | 14.81 (E)                  |
| 6670.00                   | 1.10       | 242.30     | 6669.49     | 9.96       | 13.21      | -9.68      | 1.10            | 658864.40          | 397816.66           | 9.95 (N)                   | 13.21 (E)                  |
| 6766.00                   | 1.20       | 188.40     | 6765.47     | 8.53       | 12.24      | -8.28      | 1.09            | 658863.44          | 397815.24           | 8.53 (N)                   | 12.24 (E)                  |
| 6860.00                   | 1.30       | 182.70     | 6859.45     | 6.50       | 12.05      | -6.24      | 0.17            | 658863.25          | 397813.20           | 6.49 (N)                   | 12.05 (E)                  |
| 6954.00                   | 1.30       | 189.90     | 6953.42     | 4.38       | 11.81      | -4.13      | 0.17            | 658863.01          | 397811.08           | 4.37 (N)                   | 11.81 (E)                  |
| 7050.00                   | 1.60       | 217.50     | 7049.39     | 2.24       | 10.81      | -2.02      | 0.78            | 658862.01          | 397808.95           | 2.24 (N)                   | 10.81 (E)                  |
| 7145.00                   | 1.80       | 231.40     | 7144.35     | 0.26       | 8.84       | -0.08      | 0.48            | 658860.04          | 397806.97           | 0.25 (N)                   | 8.84 (E)                   |
| 7240.00                   | 1.90       | 232.80     | 7239.30     | -1.62      | 6.42       | 1.76       | 0.12            | 658857.62          | 397805.08           | -1.63 (S)                  | 6.42 (E)                   |
| 7334.00                   | 1.80       | 225.80     | 7333.25     | -3.59      | 4.12       | 3.68       | 0.26            | 658855.32          | 397803.11           | -3.60 (S)                  | 4.12 (E)                   |
| 7434.00                   | 0.70       | 193.80     | 7433.23     | -5.28      | 2.85       | 5.34       | 1.26            | 658854.05          | 397801.42           | -5.29 (S)                  | 2.85 (E)                   |
| 7530.00                   | 0.40       | 231.80     | 7529.22     | -6.06      | 2.44       | 6.11       | 0.48            | 658853.64          | 397800.65           | -6.07 (S)                  | 2.44 (E)                   |
| 7625.00                   | 0.30       | 214.20     | 7624.22     | -6.47      | 2.04       | 6.51       | 0.15            | 658853.24          | 397800.24           | -6.48 (S)                  | 2.04 (E)                   |
| 7720.00                   | 0.40       | 358.00     | 7719.22     | -6.34      | 1.89       | 6.38       | 0.70            | 658853.09          | 397800.36           | -6.35 (S)                  | 1.89 (E)                   |
| 7815.00                   | 0.50       | 312.30     | 7814.22     | -5.73      | 1.57       | 5.77       | 0.38            | 658852.77          | 397800.97           | -5.74 (S)                  | 1.57 (E)                   |
| 7910.00                   | 0.50       | 253.60     | 7909.22     | -5.57      | 0.87       | 5.59       | 0.52            | 658852.07          | 397801.13           | -5.58 (S)                  | 0.87 (E)                   |
| 8005.00                   | 0.40       | 154.30     | 8004.21     | -5.99      | 0.62       | 6.00       | 0.73            | 658851.82          | 397800.72           | -5.99 (S)                  | 0.62 (E)                   |
| 8100.00                   | 0.10       | 338.30     | 8099.21     | -6.21      | 0.73       | 6.22       | 0.53            | 658851.93          | 397800.50           | -6.22 (S)                  | 0.73 (E)                   |
| 8193.00                   | 0.40       | 231.10     | 8192.21     | -6.34      | 0.45       | 6.35       | 0.47            | 658851.65          | 397800.37           | -6.34 (S)                  | 0.45 (E)                   |
| 8288.00                   | 1.00       | 242.80     | 8287.21     | -6.92      | -0.55      | 6.91       | 0.65            | 658850.65          | 397799.78           | -6.93 (S)                  | -0.55 (W)                  |
| 8383.00                   | 1.10       | 289.10     | 8382.19     | -7.01      | -2.15      | 6.96       | 0.87            | 658849.05          | 397799.70           | -7.01 (S)                  | -2.15 (W)                  |
| 8479.00                   | 1.40       | 305.60     | 8478.17     | -6.02      | -3.97      | 5.94       | 0.49            | 658847.23          | 397800.68           | -6.03 (S)                  | -3.97 (W)                  |
| 8573.00                   | 1.20       | 311.20     | 8572.14     | -4.70      | -5.65      | 4.59       | 0.25            | 658845.55          | 397802.00           | -4.71 (S)                  | -5.65 (W)                  |
| 8668.00                   | 1.20       | 340.40     | 8667.12     | -3.11      | -6.73      | 2.97       | 0.64            | 658844.47          | 397803.59           | -3.12 (S)                  | -6.73 (W)                  |
| 8763.00                   | 0.80       | 27.70      | 8762.11     | -1.59      | -6.75      | 1.45       | 0.93            | 658844.44          | 397805.12           | -1.59 (S)                  | -6.75 (W)                  |
| 8858.00                   | 0.30       | 25.00      | 8857.11     | -0.78      | -6.34      | 0.64       | 0.53            | 658844.86          | 397805.93           | -0.78 (S)                  | -6.34 (W)                  |
| 8953.00                   | 0.10       | 269.40     | 8952.11     | -0.55      | -6.32      | 0.42       | 0.37            | 658844.88          | 397806.15           | -0.56 (S)                  | -6.32 (W)                  |
| 9048.00                   | 0.30       | 149.00     | 9047.11     | -0.76      | -6.27      | 0.63       | 0.38            | 658844.93          | 397805.94           | -0.77 (S)                  | -6.27 (W)                  |
| 9143.00                   | 0.40       | 205.90     | 9142.10     | -1.28      | -6.29      | 1.15       | 0.36            | 658844.91          | 397805.43           | -1.28 (S)                  | -6.29 (W)                  |
| 9238.00                   | 0.30       | 233.50     | 9237.10     | -1.72      | -6.64      | 1.58       | 0.20            | 658844.56          | 397804.98           | -1.73 (S)                  | -6.64 (W)                  |
| 9333.00                   | 0.30       | 253.00     | 9332.10     | -1.94      | -7.07      | 1.80       | 0.11            | 658844.13          | 397804.76           | -1.95 (S)                  | -7.07 (W)                  |
| 9427.00                   | 0.30       | 216.50     | 9426.10     | -2.21      | -7.46      | 2.06       | 0.20            | 658843.74          | 397804.49           | -2.22 (S)                  | -7.46 (W)                  |

| Measured<br>Depth<br>(Ft) | INC<br>Deg | AZM<br>Deg | TVD<br>(Ft) | NS<br>(Ft) | EW<br>(Ft) | VS<br>(Ft) | DLB<br>"/100 Ft | Easting<br>(US Ft) | Northing<br>(US Ft) | UD/NS<br>From-Plan<br>(Ft) | L/REW<br>From-Plan<br>(Ft) |
|---------------------------|------------|------------|-------------|------------|------------|------------|-----------------|--------------------|---------------------|----------------------------|----------------------------|
| 9522.00                   | 0.40       | 226.10     | 9521.10     | -2.64      | -7.84      | 2.48       | 0.12            | 658843.36          | 397804.06           | -2.65 (S)                  | -7.84 (W)                  |
| 9619.00                   | 0.30       | 224.90     | 9618.10     | -3.06      | -8.27      | 2.88       | 0.10            | 658842.93          | 397803.65           | -3.07 (S)                  | -8.27 (W)                  |
| 9683.00                   | 0.30       | 215.60     | 9682.10     | -3.31      | -8.48      | 3.14       | 0.08            | 658842.72          | 397803.39           | -3.32 (S)                  | -8.48 (W)                  |
| 9715.00                   | 0.20       | 156.30     | 9714.10     | -3.43      | -8.51      | 3.25       | 0.82            | 658842.69          | 397803.27           | -3.44 (S)                  | -8.51 (W)                  |
| 9747.00                   | 1.20       | 183.30     | 9746.09     | -3.82      | -8.50      | 3.64       | 3.21            | 658842.70          | 397802.89           | -3.83 (S)                  | -8.50 (W)                  |
| 9779.00                   | 4.10       | 181.20     | 9778.06     | -5.30      | -8.55      | 5.12       | 9.07            | 658842.65          | 397801.41           | 5.50 (U)                   | 8.43 (R)                   |
| 9811.00                   | 7.70       | 180.10     | 9809.88     | -8.58      | -8.58      | 8.40       | 11.26           | 658842.62          | 397798.12           | 8.69 (U)                   | 8.56 (R)                   |
| 9843.00                   | 11.30      | 179.40     | 9841.44     | -13.86     | -8.55      | 13.68      | 11.26           | 658842.65          | 397792.84           | 13.66 (U)                  | 8.76 (R)                   |
| 9874.00                   | 14.90      | 179.70     | 9871.62     | -20.89     | -8.49      | 20.71      | 11.61           | 658842.71          | 397785.82           | 19.37 (U)                  | 9.02 (R)                   |
| 9906.00                   | 17.70      | 180.20     | 9902.34     | -29.87     | -8.49      | 29.69      | 8.76            | 658842.71          | 397776.83           | 25.30 (U)                  | 9.57 (R)                   |
| 9937.00                   | 20.20      | 178.30     | 9931.65     | -39.93     | -8.35      | 39.75      | 8.31            | 658842.85          | 397766.77           | 30.29 (U)                  | 11.43 (R)                  |
| 9969.00                   | 22.60      | 175.00     | 9961.45     | -51.58     | -7.65      | 51.41      | 8.39            | 658843.55          | 397755.12           | 34.59 (U)                  | 14.19 (R)                  |
| 10001.00                  | 25.10      | 172.40     | 9990.71     | -64.44     | -6.21      | 64.30      | 8.47            | 658844.99          | 397742.27           | 38.37 (U)                  | 16.51 (R)                  |
| 10032.00                  | 27.60      | 170.40     | 10018.49    | -78.04     | -4.15      | 77.94      | 8.56            | 658847.05          | 397728.67           | 41.54 (U)                  | 18.27 (R)                  |
| 10064.00                  | 30.40      | 169.60     | 10046.47    | -93.31     | -1.45      | 93.26      | 8.83            | 658849.75          | 397713.39           | 44.78 (U)                  | 19.10 (R)                  |
| 10096.00                  | 33.30      | 168.40     | 10073.65    | -109.89    | 1.78       | 109.90     | 9.28            | 658852.98          | 397696.82           | 47.59 (U)                  | 19.99 (R)                  |
| 10127.00                  | 35.90      | 168.00     | 10099.17    | -127.12    | 5.38       | 127.20     | 8.42            | 658856.58          | 397679.59           | 50.20 (U)                  | 20.13 (R)                  |
| 10159.00                  | 38.10      | 168.10     | 10124.72    | -145.96    | 9.37       | 146.12     | 6.88            | 658860.57          | 397660.75           | 52.48 (U)                  | 19.85 (R)                  |
| 10190.00                  | 40.40      | 169.50     | 10148.73    | -165.19    | 13.17      | 165.43     | 7.95            | 658864.37          | 397641.51           | 54.42 (U)                  | 18.88 (R)                  |
| 10222.00                  | 42.30      | 170.50     | 10172.75    | -186.01    | 16.84      | 186.32     | 6.29            | 658868.04          | 397620.69           | 55.54 (U)                  | 18.65 (R)                  |
| 10254.00                  | 44.20      | 171.30     | 10196.06    | -207.66    | 20.31      | 208.04     | 6.18            | 658871.51          | 397599.04           | 55.72 (U)                  | 18.99 (R)                  |
| 10285.00                  | 44.70      | 171.20     | 10218.19    | -229.12    | 23.61      | 229.56     | 1.63            | 658874.81          | 397577.59           | 55.41 (U)                  | 20.05 (R)                  |
| 10317.00                  | 45.10      | 171.00     | 10240.85    | -251.43    | 27.10      | 251.94     | 1.33            | 658878.30          | 397555.27           | 55.32 (U)                  | 21.14 (R)                  |
| 10348.00                  | 46.60      | 172.00     | 10262.45    | -273.43    | 30.39      | 274.00     | 5.36            | 658881.59          | 397533.27           | 56.08 (U)                  | 21.60 (R)                  |
| 10380.00                  | 50.10      | 173.30     | 10283.71    | -297.14    | 33.44      | 297.77     | 11.35           | 658884.64          | 397509.56           | 57.51 (U)                  | 22.27 (R)                  |
| 10412.00                  | 53.20      | 173.80     | 10303.56    | -322.08    | 36.26      | 322.76     | 9.76            | 658887.46          | 397484.63           | 58.63 (U)                  | 23.39 (R)                  |
| 10444.00                  | 55.70      | 174.40     | 10322.17    | -347.97    | 38.93      | 348.71     | 7.96            | 658890.13          | 397458.73           | 59.42 (U)                  | 24.28 (R)                  |
| 10475.00                  | 58.20      | 175.40     | 10339.07    | -373.85    | 41.24      | 374.63     | 8.51            | 658892.44          | 397432.85           | 59.82 (U)                  | 24.91 (R)                  |
| 10507.00                  | 60.90      | 176.10     | 10355.29    | -401.36    | 43.28      | 402.17     | 8.65            | 658894.48          | 397405.35           | 59.71 (U)                  | 25.81 (R)                  |
| 10539.00                  | 63.10      | 176.20     | 10370.31    | -429.55    | 45.17      | 430.39     | 6.88            | 658896.37          | 397377.16           | 58.94 (U)                  | 26.81 (R)                  |
| 10570.00                  | 65.10      | 177.40     | 10383.85    | -457.39    | 46.73      | 458.26     | 7.33            | 658897.93          | 397349.32           | 57.66 (U)                  | 27.26 (R)                  |
| 10602.00                  | 67.70      | 178.30     | 10396.66    | -486.69    | 47.83      | 487.58     | 8.52            | 658899.03          | 397320.02           | 55.44 (U)                  | 28.10 (R)                  |
| 10634.00                  | 69.90      | 178.20     | 10408.23    | -516.51    | 48.74      | 517.41     | 6.88            | 658899.94          | 397290.20           | 52.55 (U)                  | 29.15 (R)                  |
| 10649.00                  | 70.50      | 178.30     | 10413.31    | -530.61    | 49.17      | 531.52     | 4.05            | 658900.37          | 397276.09           | 51.07 (U)                  | 29.48 (R)                  |
| 10681.00                  | 72.20      | 177.70     | 10423.55    | -560.91    | 50.23      | 561.84     | 5.60            | 658901.43          | 397245.79           | 46.94 (U)                  | 29.98 (R)                  |
| 10713.00                  | 74.20      | 176.80     | 10432.79    | -591.51    | 51.70      | 592.46     | 6.81            | 658902.90          | 397215.19           | 41.83 (U)                  | 29.69 (R)                  |
| 10744.00                  | 76.50      | 176.10     | 10440.63    | -621.44    | 53.56      | 622.42     | 7.73            | 658904.76          | 397185.26           | 36.25 (U)                  | 28.52 (R)                  |
| 10776.00                  | 79.00      | 176.40     | 10447.42    | -652.65    | 55.60      | 653.66     | 7.87            | 658906.80          | 397154.06           | 30.16 (U)                  | 26.66 (R)                  |
| 10807.00                  | 81.00      | 176.70     | 10452.81    | -683.12    | 57.44      | 684.16     | 6.52            | 658908.64          | 397123.59           | 24.41 (U)                  | 24.83 (R)                  |
| 10839.00                  | 82.50      | 177.00     | 10457.40    | -714.74    | 59.18      | 715.81     | 4.78            | 658910.38          | 397091.97           | 19.53 (U)                  | 23.15 (R)                  |
| 10871.00                  | 84.00      | 176.60     | 10461.16    | -746.47    | 60.95      | 747.57     | 4.85            | 658912.15          | 397060.24           | 15.53 (U)                  | 21.50 (R)                  |
| 10902.00                  | 85.20      | 176.30     | 10464.08    | -777.27    | 62.86      | 778.41     | 3.99            | 658914.06          | 397029.44           | 12.42 (U)                  | 19.72 (R)                  |
| 10934.00                  | 86.30      | 176.10     | 10466.45    | -809.11    | 64.98      | 810.28     | 3.49            | 658916.18          | 396997.60           | 9.88 (U)                   | 17.73 (R)                  |
| 10966.00                  | 86.60      | 176.20     | 10468.43    | -840.98    | 67.12      | 842.19     | 0.99            | 658918.32          | 396965.73           | 7.74 (U)                   | 15.72 (R)                  |
| 10998.00                  | 87.00      | 176.00     | 10470.22    | -872.85    | 69.30      | 874.10     | 1.40            | 658920.50          | 396933.85           | 5.79 (U)                   | 13.69 (R)                  |
| 11029.00                  | 87.50      | 175.00     | 10471.70    | -903.72    | 71.72      | 905.01     | 3.60            | 658922.92          | 396902.98           | 4.16 (U)                   | 11.41 (R)                  |
| 11060.00                  | 88.60      | 175.20     | 10472.76    | -934.59    | 74.37      | 935.93     | 3.61            | 658925.57          | 396872.12           | 2.95 (U)                   | 8.89 (R)                   |
| 11092.00                  | 89.20      | 175.70     | 10473.37    | -966.48    | 76.91      | 967.87     | 2.44            | 658928.11          | 396840.22           | 2.18 (U)                   | 6.49 (R)                   |
| 11155.00                  | 90.40      | 179.20     | 10473.59    | -1029.41   | 79.71      | 1030.84    | 5.87            | 658930.91          | 396777.30           | 1.67 (U)                   | 3.97 (R)                   |
| 11219.00                  | 92.10      | 179.70     | 10472.20    | -1093.39   | 80.33      | 1094.82    | 2.77            | 658931.53          | 396713.32           | 2.76 (U)                   | 3.66 (R)                   |
| 11282.00                  | 91.30      | 179.20     | 10470.33    | -1156.36   | 80.93      | 1157.79    | 1.50            | 658932.13          | 396650.35           | 4.33 (U)                   | 3.35 (R)                   |
| 11377.00                  | 90.20      | 178.80     | 10469.08    | -1251.33   | 82.59      | 1252.78    | 1.23            | 658933.79          | 396555.37           | 5.13 (U)                   | 2.15 (R)                   |
| 11472.00                  | 91.20      | 178.30     | 10467.92    | -1346.29   | 84.99      | 1347.77    | 1.18            | 658936.19          | 396460.41           | 5.84 (U)                   | 0.19 (R)                   |
| 11568.00                  | 89.90      | 179.00     | 10467.00    | -1442.26   | 87.25      | 1443.76    | 1.54            | 658938.45          | 396364.45           | 6.31 (U)                   | -1.61 (L)                  |
| 11663.00                  | 90.20      | 178.10     | 10466.92    | -1537.23   | 89.66      | 1538.76    | 1.00            | 658940.86          | 396269.48           | 5.95 (U)                   | -3.56 (L)                  |
| 11757.00                  | 89.30      | 180.00     | 10467.33    | -1631.21   | 91.22      | 1632.75    | 2.24            | 658942.42          | 396175.50           | 5.09 (U)                   | -4.67 (L)                  |

| Measured<br>Depth<br>(Ft) | INC<br>Deg | AZM<br>Deg | TVD<br>(Ft) | NS<br>(Ft) | EW<br>(Ft) | VB<br>(Ft) | DLB<br>*/100 Ft | Easting<br>(US ft) | Northing<br>(US ft) | UDNS<br>From-Plan<br>(Ft) | LR/EW<br>From-Plan<br>(Ft) |
|---------------------------|------------|------------|-------------|------------|------------|------------|-----------------|--------------------|---------------------|---------------------------|----------------------------|
| 11852.00                  | 89.80      | 180.20     | 10468.07    | -1726.20   | 91.05      | 1727.72    | 0.57            | 658942.25          | 396080.50           | 3.90 (U)                  | -4.06 (L)                  |
| 11947.00                  | 90.50      | 180.10     | 10467.83    | -1821.20   | 90.80      | 1822.70    | 0.74            | 658942.00          | 395985.50           | 3.70 (U)                  | -3.36 (L)                  |
| 12042.00                  | 87.70      | 180.20     | 10469.32    | -1916.18   | 90.55      | 1917.65    | 2.95            | 658941.75          | 395890.52           | 1.76 (U)                  | -2.66 (L)                  |
| 12137.00                  | 86.80      | 179.70     | 10473.88    | -2011.07   | 90.64      | 2012.52    | 1.08            | 658941.84          | 395795.63           | -3.25 (D)                 | -2.29 (L)                  |
| 12232.00                  | 85.60      | 178.30     | 10480.17    | -2105.84   | 92.29      | 2107.31    | 1.94            | 658943.49          | 395700.86           | -10.02 (D)                | -3.51 (L)                  |
| 12326.00                  | 87.80      | 177.90     | 10485.58    | -2199.63   | 95.40      | 2201.14    | 2.38            | 658946.60          | 395607.07           | -15.86 (D)                | -6.18 (L)                  |
| 12421.00                  | 88.90      | 178.30     | 10488.32    | -2294.54   | 98.55      | 2296.09    | 1.23            | 658949.75          | 395512.17           | -19.03 (D)                | -8.86 (L)                  |
| 12516.00                  | 92.00      | 181.80     | 10487.57    | -2389.51   | 98.47      | 2391.04    | 4.92            | 658949.67          | 395417.20           | -18.73 (D)                | -8.35 (L)                  |
| 12611.00                  | 90.00      | 180.80     | 10485.91    | -2484.46   | 96.31      | 2485.93    | 2.35            | 658947.51          | 395322.24           | -17.51 (D)                | -5.71 (L)                  |
| 12706.00                  | 89.80      | 179.80     | 10486.08    | -2579.46   | 95.81      | 2580.89    | 1.07            | 658947.01          | 395227.24           | -18.13 (D)                | -4.76 (L)                  |
| 12801.00                  | 89.40      | 178.30     | 10486.74    | -2674.44   | 97.39      | 2675.89    | 1.63            | 658948.59          | 395132.26           | -19.24 (D)                | -5.89 (L)                  |
| 12895.00                  | 93.10      | 179.80     | 10484.69    | -2768.39   | 98.95      | 2769.85    | 4.25            | 658950.15          | 395038.32           | -17.65 (D)                | -7.00 (L)                  |
| 12990.00                  | 92.70      | 179.70     | 10479.89    | -2863.26   | 99.36      | 2864.71    | 0.43            | 658950.56          | 394943.44           | -13.28 (D)                | -6.96 (L)                  |
| 13085.00                  | 94.00      | 182.70     | 10474.33    | -2958.07   | 97.38      | 2959.45    | 3.44            | 658948.58          | 394848.64           | -8.18 (D)                 | -4.56 (L)                  |
| 13180.00                  | 93.20      | 181.90     | 10468.37    | -3052.80   | 93.57      | 3054.09    | 1.19            | 658944.77          | 394753.90           | -2.65 (D)                 | -0.28 (L)                  |
| 13274.00                  | 92.40      | 180.50     | 10463.78    | -3146.67   | 91.61      | 3147.89    | 1.71            | 658942.81          | 394660.04           | 1.50 (U)                  | 2.14 (R)                   |
| 13369.00                  | 91.90      | 179.20     | 10460.21    | -3241.60   | 91.86      | 3242.81    | 1.47            | 658943.06          | 394565.11           | 4.62 (U)                  | 2.34 (R)                   |
| 13464.00                  | 92.90      | 178.80     | 10456.23    | -3336.50   | 93.51      | 3337.72    | 1.13            | 658944.71          | 394470.21           | 8.16 (U)                  | 1.13 (R)                   |
| 13559.00                  | 90.00      | 179.00     | 10453.83    | -3431.44   | 95.34      | 3432.68    | 3.06            | 658946.54          | 394375.26           | 10.11 (U)                 | -0.23 (L)                  |
| 13654.00                  | 87.60      | 177.50     | 10455.82    | -3526.37   | 98.24      | 3527.65    | 2.98            | 658949.43          | 394280.34           | 7.68 (U)                  | -2.67 (L)                  |
| 13749.00                  | 88.90      | 178.50     | 10458.72    | -3621.26   | 101.55     | 3622.59    | 1.73            | 658952.75          | 394185.44           | 4.32 (U)                  | -5.54 (L)                  |
| 13844.00                  | 90.60      | 178.60     | 10459.14    | -3716.23   | 103.95     | 3717.58    | 1.79            | 658955.15          | 394090.48           | 3.46 (U)                  | -7.50 (L)                  |
| 13940.00                  | 89.00      | 178.10     | 10459.47    | -3812.18   | 106.72     | 3813.58    | 1.75            | 658957.92          | 393994.52           | 2.67 (U)                  | -9.81 (L)                  |
| 14035.00                  | 87.80      | 176.20     | 10462.12    | -3907.02   | 111.44     | 3908.49    | 2.36            | 658962.64          | 393899.68           | -0.43 (D)                 | -14.10 (L)                 |
| 14130.00                  | 87.80      | 177.40     | 10465.77    | -4001.80   | 116.74     | 4003.36    | 1.26            | 658967.94          | 393804.90           | -4.53 (D)                 | -18.94 (L)                 |
| 14225.00                  | 88.30      | 176.80     | 10469.00    | -4096.62   | 121.54     | 4098.26    | 0.82            | 658972.74          | 393710.08           | -8.21 (D)                 | -23.32 (L)                 |
| 14320.00                  | 89.40      | 178.70     | 10470.91    | -4191.53   | 125.27     | 4193.22    | 2.31            | 658976.47          | 393615.18           | -10.56 (D)                | -26.56 (L)                 |
| 14415.00                  | 88.80      | 177.90     | 10472.40    | -4286.47   | 128.09     | 4288.21    | 1.05            | 658979.29          | 393520.23           | -12.50 (D)                | -28.94 (L)                 |
| 14510.00                  | 87.60      | 177.50     | 10475.39    | -4381.35   | 131.90     | 4383.14    | 1.33            | 658983.10          | 393425.36           | -15.95 (D)                | -32.33 (L)                 |
| 14604.00                  | 88.20      | 178.00     | 10478.83    | -4475.21   | 135.58     | 4477.06    | 0.83            | 658986.78          | 393331.49           | -19.83 (D)                | -35.55 (L)                 |
| 14699.00                  | 87.20      | 177.50     | 10482.64    | -4570.06   | 139.31     | 4571.97    | 1.18            | 658990.51          | 393236.66           | -24.11 (D)                | -38.87 (L)                 |
| 14794.00                  | 86.60      | 177.80     | 10487.78    | -4664.84   | 143.20     | 4666.81    | 0.71            | 658994.40          | 393141.87           | -29.72 (D)                | -42.32 (L)                 |
| 14889.00                  | 86.40      | 177.40     | 10493.58    | -4759.58   | 147.17     | 4761.61    | 0.47            | 658998.37          | 393047.13           | -35.99 (D)                | -45.88 (L)                 |
| 14975.00                  | 86.50      | 176.80     | 10498.91    | -4845.30   | 151.51     | 4847.40    | 0.71            | 659002.71          | 392961.40           | -41.73 (D)                | -49.88 (L)                 |
| <b>PTB @ TD</b>           |            |            |             |            |            |            |                 |                    |                     |                           |                            |
| 15027.00                  | 86.50      | 176.80     | 10502.08    | -4897.13   | 154.41     | 4899.28    | 0.00            | 659005.61          | 392909.58           | -                         | -                          |